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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,604	12/05/2001	Chad B. McBride	ROC920000324US1	3507

7590 03/21/2006

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EXAMINER

LIU, JONATHAN

ART UNIT	PAPER NUMBER
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2616

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/006,604	Applicant(s) MCBRIDE ET AL.	
	Examiner Jonathan Liou	Art Unit 2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/05/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.
2. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claims 4 and 6 are objected to because of the following informalities: Claim 4 needs to specify which claim is properly dependent on. Claim 6 has a typographical error on the "claims" while only depend on single claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6, 9-10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonsson et al. (US Pat No. 6,700,888.)

Regarding claim 1, Jonsson et al. teach a method to forward network data in a data processing system (See Fig. 2, Jonsson et al.), comprising:

(a) receiving network data; (the packet stream 11 is input to a header extractor 24. See Fig. 2)

(b) separating the network data into portions which will be modified and into portions which will not be modified; (the header extractor separate the header, which would be modified portion, and payload, which would be nonmodified portion as claimed. See Fig. 2)

(c) storing both portions of the network data in a local memory;

(d) forwarding the modifiable portions of the data to a cache associated with a processing element requesting at least the modifiable portion of the data; (Jonsson et al. shows forwarding header to field extractor, which would be a cache, associated with Field processor, which would be the processing element as claimed. See Fig. 2)

(e) determining a next processing element destination of the network data; (Jonsson et al. teach the protocol header field would have the destination information (See col 5, 43-63, Jonsson et al.)

(g) modifying the modifiable portion within the requesting processing element (Field processors 26 and header assembler perform the header field processing. See Fig. 2.)

(h) writing back the modified portion of the network data to the next processing element destination independently of transferring the nonmodifiable portion of the network (Jonsson et al. show header process to the next processing element (Combiner 27) independently of transferring payload.)

Jonsson et al. does not specifically teach storing both header and payload in a local memory, transferring the portion of the network data are not modified to a next memory system of the next processing element destination, and sending modified portion bypassing the local memory. However, Jonsson et al. teach transferring payload to a combiner (See Fig. 2), which need to have memory function because combiner acts as storing the data and combining the stored data. As admitted prior art in the background section and Fig. 1 of application, header and payload stored in a local memory and parsing the header and payload to the different processing. Therefore, by implementing a local memory to stored the packet stream before go through the process the Header Extractor 22 of Jonsson et al. are obvious to one of ordinary skill in the art because the data stream received are often stored in a memory prior sending the data to perform further processing. Further, the header and payload would transfer independently bypassing this local memory to the combiner for reassemble. Thus, it would have been obvious to one who has ordinary skill in the art at the time the invention was made to have a local memory to stored incoming packet, which holds the header and payload and combiner should have a memory system in order to store the data for combining.

Regarding claim 2, Jonsson et al. teach the header assembler can alter the network protocol (See col 4, lines 19-38, Jonsson et al.)

Regarding claim 3, Jonsson et al. teach the method according to claim 2. Jonsson et al. does not specifically teach ATM protocol to implement on the system. However, it is well known in the art that ATM protocol and IP/TCP protocol are often

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implemented on the system for the header processing and compression method. Since Jonsson et al.'s method are directly to the header processing, it would have been obvious to one who has ordinary skill in the art at the time the invention was made to have ATM protocol because ATM switch are also often used for IP.

Regarding claims 4-6, Jonsson et al. teach the protocol could be Ethernet, IP, or PPP (See col 1, lines 13-49, Jonsson et al.)

Regarding claims 9-10, Jonsson et al. teach Field processors and header assembler, which would be network processor and local processing element as claimed (See Fig. 2)

Regarding claim 12, Jonsson et al. teach receiving incoming data comprised of at least one packet, the data packet having header, which would be modifiable portion as claimed, and payload, which would be nonmodifiable portion (Packet are received through path 11. See Fig. 2.) Jonsson et al. also shows payload and header independently sent to a combiner, which would be a next processing element system as claimed. Furthermore, Jonsson et al. teach forward the updated payload to the next processing element independently. Jonsson et al. does not specifically shows a local memory, a bus interface and interconnect fabric. However, the background and Fig. 1 of the application shows these are well known in the art to have a bus interface connected to the local memory and forward header to interconnect fabric and Jonsson further teach sending header and payload independently to the next processing element (See Fig. 2.) Therefore, it would have been obvious for one who has ordinary skill in the art at the time the invention was made to have local memory, a bus interface, and

interconnect fabric implement on Jonsson et al.'s system because Jonsson et al.'s system need to have some interface to receive the data and the memory to store the incoming data in order for header extractor to parse the header and payload.

6. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonsson et al. (US Pat No. 6,700,888.), in view of Lincoln et al. (US Pat No. 6,075,790.)

Regarding claims 7-8, Jonsson et al. teach the method of claim 2. Jonsson et al. do not specifically teach translating or updating an address. However, Lincoln et al. teach to provide the address and compare with control memory to use the right address for reassemble (See col 3, lines 32-55, Jonsson et al.) Since Lincoln et al. teach the method based on separating the cell and header and reassemble both (See Fig. 2), it would have been obvious to one who has ordinary skill in the art at the time the invention was made to update the address in order to reassemble because the destination has to be known in order for the header and payload to recombine.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jonsson et al. (US Pat No. 6,700,888.), in view of Li (U.S. Pat. No. 6,754,662.)

Regarding claim 11, Jonsson teaches the processing element to perform the modification (See Fig. 2) Jonsson et al. do not specifically teach using an application specific integrated circuit, ASIC, to function the modifications. Nevertheless, Li teach the hash-caching packet classification approach to appropriate classifies the packets, and this method could be done by programmable logic architectures such as ASICs (col 3, lines 35-49, Li.) Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modification function in an embedded

processor by using ASICs because it would provide the program logic circuit to perform necessary functions for modification.

8. Claims 13-15, 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonsson et al. (US Pat No. 6,700,888.), and further in view of Liu et al. (U.S. Pub. No. 2002/0027901)

Regarding claims 13-14, Jonsson et al. teach the apparatus of claim 12.

Jonsson et al. do not specifically teach what type of incoming data would be.

Nevertheless, Liu et al. teach Network interfaces could receive various signals. The interfaces typically handle one or more data types, including, as examples, analog, digital, broadband, wireless, and optical data.

It would be obvious for one who have ordinary skill in the art to understand a network interface would be possible to receive the incoming data with different type of signal, such as analog, digital, or optical data. In addition, Liu et al. teach the networks enable the packets of a particular transmission to travel from source to destination, which would be related to the field of data transfer in a data processing system.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to receive incoming data that is digital, analog, or optical data based on Jonsson et al.'s structure in view of Liu et al. because this would give the plurality of types of input signals to the network interfaces for forwarding data.

Regarding claim 15, Jonsson et al. teach means for the step (b) through (g) as shown in Fig. 2 and addressed with the rationale and basis based on the rejection for the claim 1 in the office action. Jonsson et al. further teach the means to receive the

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incoming packet (See Fig. 2). Although Jonsson et al. does not specifically teach what type of incoming data is, Liu et al. teach the network incoming data could be optical or digital as taught for claims 13-14 in the office action. Following the same rationale and basis as applied to claim 1 and 13-14, it would have been obvious for one who has ordinary skill in the art at the invention to know the incoming could be optical or digital data because the IP network system are generally implemented on optical or digital system.

Regarding claims 17-19, the same rationale and basis as applied to claims 2-6, and 9 are applied.

9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jonsson et al. (US Pat No. 6,700,888.), in view of Liu et al. (U.S. Pub. No. 2002/0027901), and further in view of Lincoln et al. (US Pat No. 6,075,790.)

Regarding claim 16, the same rationale and basis as applied to claims 7-8 and 15 are applied.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Liou whose telephone number is 571-272-8136. The examiner can normally be reached on 8:00AM - 5:00PM Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jonathan Liou

3/13/2006


RICKY Q. NGO
SUPERVISORY PATENT EXAMINER